

# USEPA's Climate Change Efforts

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SWRCB/DWR Climate  
Change Conference

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# Overview

- U.S. Climate Change Policy
- EPA's role in Climate Change
- Energy/Water/GHG Nexus
  - Office of Water Climate Change Strategy
  - Energy Star
  - WaterSense
  - Low Impact Development
  - Clean EnergyEnvironment Municipal Network
  - Climate Leaders
- Other CO<sub>2</sub> and Non-CO<sub>2</sub> Programs
- Legislative Proposals in 110th Congress
- Closing Thoughts

# U.S. Climate Change Policy

- Slowing the growth of GHG emissions
  - Reduce emissions intensity (tons/\$GDP) by 18% between 2002 and 2012
  - Improving fuel economy and expanding alternative fuel use
- Expanding scientific research into key uncertainties
- Expanding technology research
  - Focus on long term R&D
- Enhancing international cooperation
  - Reaffirm U.S. commitment to the UNFCCC
  - Multi-lateral and bi-lateral programs

# Addressing Climate Change: EPA's Role

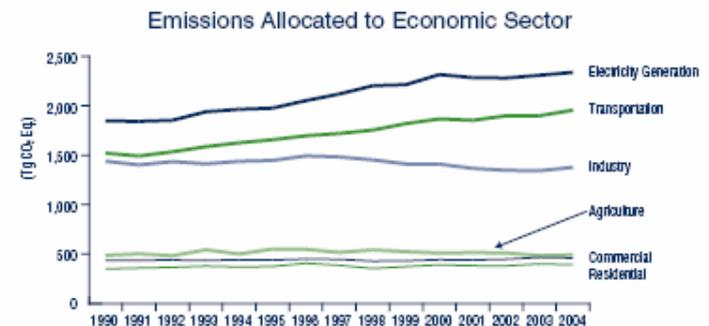
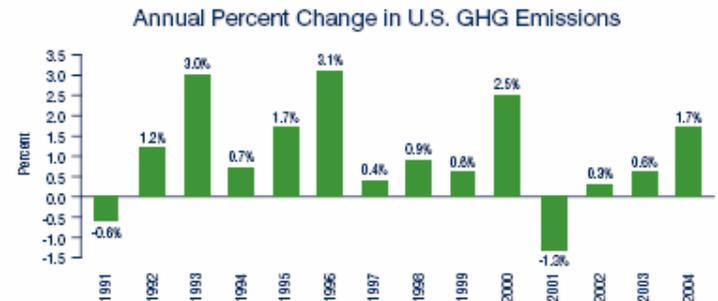
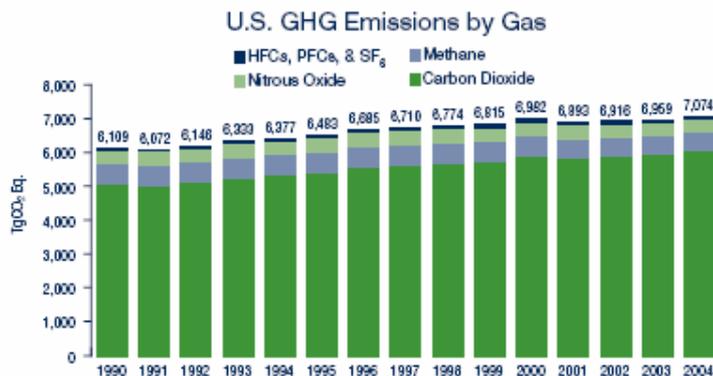
- Contribute significantly to Bush's goal of 18% reduction in GHG intensity by 2012
- Challenge businesses, state and local gov'ts to reduce their emissions through voluntary partnerships. Estimated Success:
  - GHG Reductions: 86 MMTCE (2005)
  - Energy Saved: 768.8 trillion BTUs (2000)
- Provide near-term solutions while other agencies invest in long-term R&D
- Prepare annual GHG Inventory Report

# US EPA GHG Inventory

- Annual inventory of US GHG emissions
- Submitted to UN in accordance with FCCC
- <http://www.epa.gov/climatechange/emissions>

## 1990-2004 Trends

- Total GHG emissions rose 16 percent since 1990 (increasing 1.3 percent since 2000)
- Dominant gas emitted was CO<sub>2</sub>, mostly from fossil fuel combustion
- Methane emissions decreased by 10 percent
- Nitrous oxide emissions decreased by 2 percent
- HFC, PFC, and SF<sub>6</sub> emissions have grown by 58 percent



# Energy/Water/GHG Nexus

- Water transport, treatment and delivery =  
Approx. 19% CA Energy Use
- Climate Change will intensify the need to look at water holistically
  - Assimilative capacity for wastewater effluent
  - Rising sea levels-->saltwater intrusion
  - Greater need for water conservation and efficiency
  - Need to adapt to decreasing snowpack
  - Reduced surface water flow = reduced groundwater recharge

# USEPA National Water Program Climate Change Workgroup

- Reviewing climate change information
- Evaluating potential impacts on water programs
- Identifying potential response actions
- Developing Climate Change Strategy for the National Water Program
  - Mitigation
  - Adaptation
  - Research

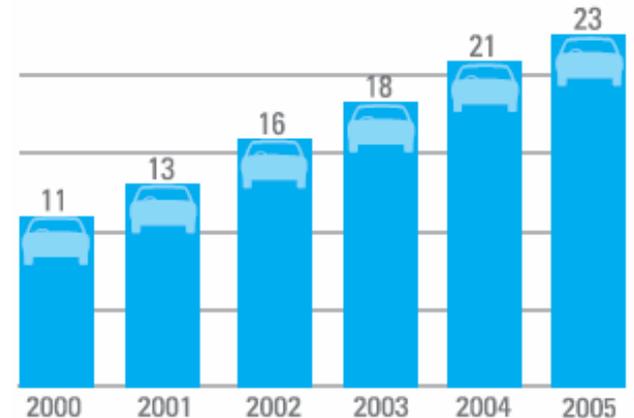


# ENERGY STAR

- Reduce greenhouse gas (GHG) emissions through large win-win-win opportunities with today's energy efficient technologies and practices
  - 30% savings in many buildings, homes, and facilities
- Provide credible information to buyers to
  - reduce transaction (research) costs
  - reduce perceptions of risk
  - enhance investment in efficient technologies and practices
- Work with the marketplace to build on motivations of important individual actors



UTILITY BILL SAVINGS  
(in billions)



EMISSIONS SAVED IN  
VEHICLE EQUIVALENTS (in millions)

Source: Energy Star® Overview of 2005 Achievements



# Water and Wastewater Industry Focus

Partners: Drinking water, POTW's, Industry,  
Nat'l and State Associations Developing:

- Energy Performance Rating System
- Energy Efficiency Assessment and Opportunities--Best Practices
- Energy Management Guidelines
- Financing Energy Efficiency Projects
- Technical Training and Support for use of EPA ENERGY STAR rating system and tools
- EPA Recognition of Energy Performance Tools



# WaterSense: “Efficiency Made Easy”

- Voluntary Partnership
- Promotes and Enhances Markets for Water-Efficient Products and Services
- Products Labeled through WaterSense
- Examples:
  - High Efficiency Toilets or Bath Faucet
  - Landscape Irrigation Services
  - Irrigation Control Technologies
- [epa.gov/watersense/](http://epa.gov/watersense/)

# Low Impact Development (LID)

- LID Literature Review & Fact Sheets
- LID Design Strategies
- LID Hydrologic Analysis
- Field Evaluation of Permeable Pavements for Stormwater Mgm't
- Links to:
  - LID Design Center
  - LID Urban Design Tools
  - LID for Big Box Retailers
  - Others
- [www.epa/owow/nps/lid](http://www.epa/owow/nps/lid)



- Launched in November
- Clean Energy Strategies for Local Government
- Information Sharing Resource
- Designed to:
  - Reduce GHG & Air Pollutants
  - Lower Energy Costs
  - Improve Reliability and Security of Energy Systems
- [www.epa.gov/cleanenergy/stateandlocal](http://www.epa.gov/cleanenergy/stateandlocal)

# CLIMATE LEADERS

U.S. Environmental Protection Agency

# The Company We Keep



# Other Voluntary Partnerships Targeting Major CO<sub>2</sub> Sources

- State Clean Energy-Environment Partnership
- WasteWise
- Green Power Partnership
- Combined Heat & Power (CHP) Partnership
- Coal Combustion Products Partnership
- Best Workplaces for Commuters
- Green Vehicle Guide
- Voluntary Diesel Retrofit Program
- Clean School Bus USA
- Green Suppliers Network



# Voluntary, Public-Private Partnerships Targeting Major Non-CO<sub>2</sub> Sources

- Landfill Methane Outreach Program
- Coalbed Methane Outreach Program
- Natural Gas STAR
- AgSTAR
- Voluntary Aluminum Industrial Partnership
- Semiconductor Partnership
- Utility SF<sub>6</sub> Partnership
- Magnesium Partnership
- HFC-23 Reduction Partnership
- Mobile Air Conditioning Climate Protection Partnership



# Climate Change in the 110th Congress

- Many climate-related bills introduced
  - 11 cap-and-trade bills
  - 18 transportation/CAFE bills
  - 9 other climate/energy bills
  - 4 foreign policy bills
- Hearings on climate issues
  - Senate: EPW, Commerce, Energy, Finance, Transportation
  - House: Government Reform, Energy and Commerce, Science, Transportation, Ways and Means, Select Committee on Climate Change
- Staff workshops
  - Senate and House Energy held workshops to educate staff
  - EESI other groups many staff/public sessions

# Climate Change in the 110th Congress

- 11 bills introduced
  - Bingaman-Specter July 14
  - Lieberman-Warner (annotated outline released)
  - 7 economy wide
  - 4 power sector
- EPA economic analysis of Lieberman-McCain bill S.280
  - Total U.S. GHG emissions are approximately 25% lower than Reference Scenario emissions in 2030, and 44% lower in 2050.
  - Modeled allowance prices range between \$27 -32 /tCO<sub>2</sub>e in 2030, and \$70 -85/tCO<sub>2</sub>e in 2050.
  - The greatest emission abatement occurs in the electricity sector.
  - The transportation sector provides a relatively small proportion
  - The enabling technologies in this analysis for electricity generation are Carbon Capture & Storage (CCS) and Nuclear Power.
- Key Elements
  - Caps and timing
  - Emissions Coverage – economy wide, single sector
  - Jurisdiction – EPA, DOE
  - Point of regulation – upstream, downstream, hybrid
  - Offsets – limits on use and scope
  - Allocation – auctions, set-asides
  - Cost-containment – safety valves, borrowing

# Climate Change in the 110th Congress

- **Offset Types**
- **Methane capture**
  - Landfill, manure, wastewater treatment, coal mines
- **Agriculture and Forestry**
  - Soil sequestration, no till, forest management, afforestation
- **Land use**
  - Grazing management, avoided conversion of wetlands
- **Industrial**
  - Cement, lime, iron and steel, aluminum, magnesium, adipic acid, semiconductors, destruction of substitutes for ODS (e.g., HFCs)
- **Geological sequestration**
  - Not from enhanced oil recovery
- **Energy Efficiency**
  - Commercial and residential buildings

# Closing Thoughts

- EPA will continue and expand our successful voluntary programs including water and wastewater. *Significant* GHG reductions have already been achieved:
  - Estimated GHG Reductions of 86 MMTCE (2005)
  - Energy Saved: 768.8 trillion BTUs (2000)
- Considerable opportunities for reducing GHG through local government partnerships for energy and water conservation
- Momentum building in Congress and States/Locals are out in front

# Closing Thoughts

- California can consider progressive policies and programs to encourage and incentivize water conservation and energy efficiency
  - Evaluate rate relief to private water companies when they invest in efficiency
  - Decouple profit from consumption in rates (Similar to CA Energy Utilities)
  - Understand energy intensity of water by geographic location/use
  - Compare price of water to production costs
  - Promote more energy efficient utilities (pumps, aerators, etc.)

# Further Information

- U.S. EPA Climate Change

[www.epa.gov/climatechange/](http://www.epa.gov/climatechange/)

- ENERGYSTAR

[www.energystar.gov](http://www.energystar.gov)

U.S. EPA State and Local Clean Energy Programs

[www.epa.gov/cleanenergy/stateandlocal](http://www.epa.gov/cleanenergy/stateandlocal)

- WaterSense

[www.epa.gov/watersense/](http://www.epa.gov/watersense/)

- **Low Impact Development**

[www.epa/owow/nps/lid](http://www.epa/owow/nps/lid)